

Atrie
WireSpan
5000/5000RM
User's Manual



WireSpan 5000/5000RM

USER'S MANUAL

ATRIE WireSpan 5000/5000RM
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(Version 1.01)

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CHAPTER 1

Introduction

1-1 Overview

The Atrie WireSpan 5000/5000RM G.SHDSL (Giga Single-pair High-bit-rate Digital Subscriber Line) System provides full duplex capability of supporting selected symmetric user data rates of E1 or $n \times 64$ kbit/s (range from 64 kbit/s to 2304 kbit/s) leased line services extension using a Trellis Coded Pulse Amplitude Modulation (TCPAM)/AMI line code over one non-loaded two-wire metallic cable pair. The line speed for transmitted and received data are multiple for lengthening the transmission distance with 10KM down to 6.5Km(2Mbps) at 24AWG (0.5mm). The operation and performance of this specification is complying with symmetric GSHDSL spectrum defined in Annex A, ITU-T Rec. G.991.2.

Application

Figure1-1 shows a typical WireSpan5000/5000RM application

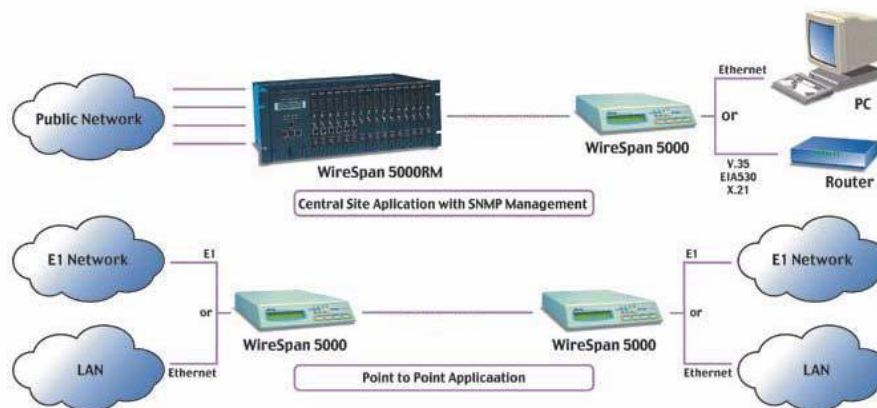


Figure1-1 Typical WireSpan 5000 series application

Feature

- Compliance with ITU-T G.991.2 (G.SHDSL)
- Support auto data rates adaptation between 64K and 2304K (N=1~36)
- V.35, X.21, EIA530, E1 & E1 Fractional interface, Ethernet interface
- Full function LCD configuration with remote configuration

- Built-in test pattern generator/detector
- SNMP management through Ethernet LAN port
- Software flash upgradeable

1-2 Physical Description

WireSpan5000 are designed for desktop installation and WireSpan5000RM are designed for mounted in a 19” rack. Installation procedures for the WireSpan5000/5000RM models and respective versions are provided in Chapter 2, Installation and setup.

Front Panel

Figure 1-2 shows a general view of WireSpan5000



Figure 1- 2. General View

LED's

The LED indicators on the front panel indicate the operating status of WireSpan5000. Various indicators display status of line, status of data activity, alert condition, and test loop activity in the system.

Connectors

The power and interface connectors are located on the rear panel of WireSpan5000/5000RM.

1-3 Functional Description

WireSpan5000 has a synchronous user's data port interface: E1 interface, ITU-T V.35, EIA RS-449/RS-530, X.21 or Ethernet interface. They are all changeable module.

WireSpan5000RM also supported by means of adapter cables. The user's data port is terminated in a 25-pin D-type female connector.

1-4 Technical Specifications

E1 Interface	Framing options	Unframed mode
		Framed mode
		Framed CRC mode
	Line rate	2.048 Mbps +/-32 ppm
	Line code	HDB3 ,AMI
	Line impedance	Balanced interface – 120 ohms
		Unbalanced interface – 75 ohms
	Signal levels	Transmit level:
		Balanced interface - +/- 3V +/- 10%
		Unbalanced interface - +/- 2.37 +/- 10%
	Jitter performance	Meet ITU-T Rec. G.823
	Connectors	Balanced interface – RJ-48 eight-pin connector
		Unbalanced interface – Two BNC coaxial
		connectors
User's Data Port	Interface	V.35 or RS-449/RS-530/X.21
	Bit rates	N x 64K bps (N= 1~36)
	Clock modes	External, Internal
	Control signals	CTS follows RTS or always ON.
		DSR follows DTR or always ON
		DCD normal or always ON
Ethernet Interface	Type	Auto-sensing 10/100 BASE-T Ethernet
	Connector	RJ-45 (to PC or HUB)
	Bridging	Dynamically learning and aging up to 1,024 MAC addresses Filtering Rates 14,800bps (10Mbps)
Diagnostics	Test loops	Local analog loopback
		Remote digital loopback.
Indicators		Power indicator
		Line synchronous indicator
		Test active indicator
		E1 synchronous indicator
		AIS indicator
		Alarm indicator
		SQ indicator
		LINK indicator
		ACT indicator

Mechanical	Standalone Unit	Height-- 40mm(max)
Characteristics		Width-- 177mm(max)
		Depth-- 260mm(max)
		Weight—878g
	19”rack	Height-- 20mm(max)
	Card version	Width-- 150mm(max)
		Depth-- 241mm(max)
		Weight—260g
Power Requirements	Standalone Unit	Supply voltage:
		AC: 85 ~ 264 VAC , 50/60 HZ
		DC: -35 ~ - 72 VDC (AC and DC)
	19” rack	5W, provided by rack
	Card version	
Environmental	Temperature	0 to 50° C (32 to 122°F)
Characteristics	Humidity	Up to 90%, non-condensing

CHAPTER 2

Installation and Setup

2-1 General

This chapter describes how to install and connect your WireSpan5000/5000RM. Step-by-step instructions guide you through installing your WireSpan5000/5000RM.

2-2 Package Contents

For WireSpan5000. The package should contain the following items:

1. The WireSpan5000.
2. One power cable.
3. One user's manual (CD)
4. One telephone cable and one terminal box for RJ-45
5. One RJ-45/D-SUB9 (F) console cable.
6. One CAT.5 UTP cable (Only for Ethernet interface)

For WireSpan5000RM. The package should contain the following Items:

1. The WireSpan 5000RM card.
2. One DTE Interface cable (only for V.35 interface).
3. One CAT.5 UTP cable (Only for Ethernet interface)

Please contact your dealer if there are any missing or damaged parts.

2-3 Panel Description

Front panel

The front panel contains a 2 line 16 character LCD display, four keys labeled EXIT, ENTER, LEFT arrow "<", and RIGHT arrow ">" ; and seven LEDs as shown in Figure 2-1. You can access the device menu tree (see Appendix C) through this front panel. Using the menu tree and front panel control keys, you can:

- Configuration your WireSpan5000 device.
- Save and load the configuration profile.
- View status information.

- Execute the diagnostic.

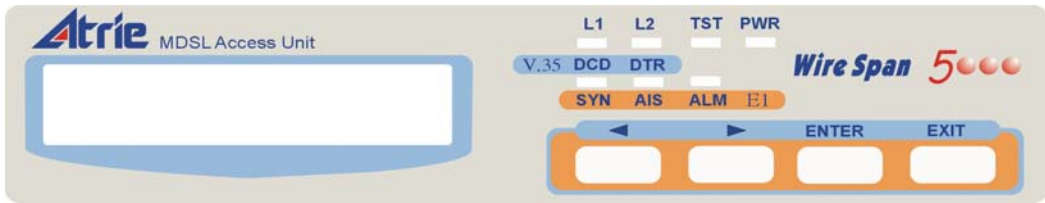


Figure 2-1 WireSpan5000 series front panel.

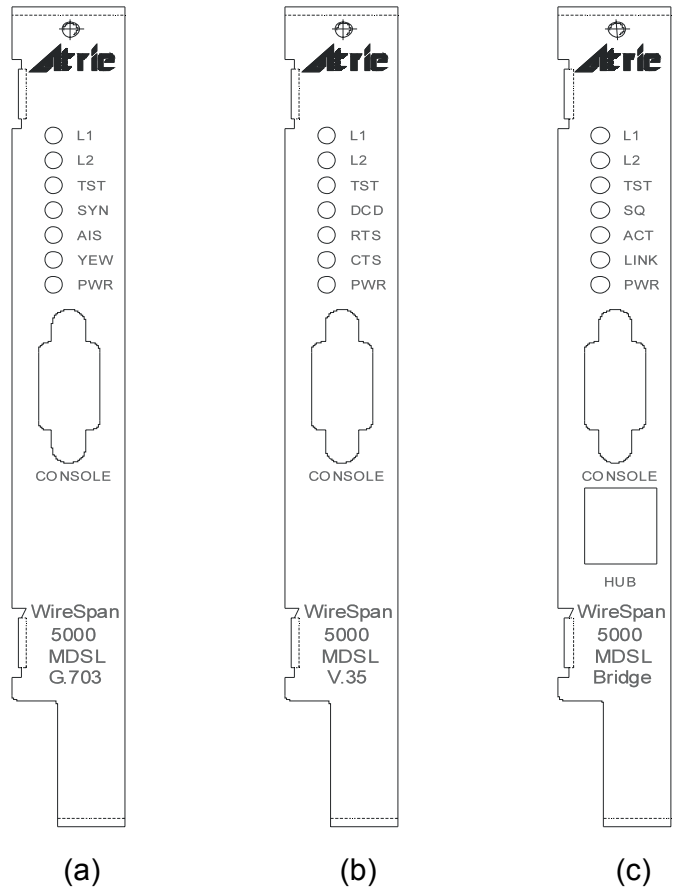


Figure 2-2 WireSpan5000RM interface

Figure 2-2 shows the front panel of the WireSpan5000RM interface. (a)E1 interface. (b)V.35 interface. (c)Ethernet interface.

1. LED Indicators

There are seven LEDs on the front panel of the WireSpan 5000/5000RM. These LEDs display the real-time status of the WireSpan5000/5000RM. Table 2-1 lists the LEDs and describes their function.

LED	Name	Description
-----	------	-------------

PWR	POWER	Lights to indicate that the power is apply to the device
L1	LOOP1	Lights to indicate that MDSL loop1 is in sync.
L2	LOOP2	Lights to indicate that MDSL loop2 is in sync.
TST	Test Mode	Lights to indicate that the device is in test mode. ■ The LED is always on when in loopback mode. ■ The LED is flesh when in Test pattern mode.
SYN/DCD	Frame Sync	In E1 mode: Lights to indicate that the device has synchronized to the E1 receive signal framing. In V.35 mode: Lights to indicate that data and carrier detect(DCD).
AIS/DTR	Alarm Indication Signal	In E1 mode: Lights to indicate when two consecutive double frames each contain two or fewer zeros out of 512 bits, and when framing alignment is lost. In V.35 mode: Lights to indicate that data terminal ready(DTR).
ALM	Alarm	Lights to indicate the alarm conditions in MDSL.
SQ	Signal Quality	Lights to indicate the signal quality in MDSL.
ACT	Active	Lights to indicate the data transmitting/receiving conditions in Ethernet
LINK	Link	Lights to indicate the link conditions in Ethernet.

2. Control Keys

The front panel's four control keys allow you to access the configuration menus, options, and settings that appear in the front panel display.

Table 2-2 lists and describes the function of each control key.

Table 2-2 Front Panel Keys

Keys	Functions
EXIT	Exit to upper menu or abort execution command
ENTER	Enter menu or confirm your choice
LEFT	Select next left menu
RIGHT	Select next right menu

3. LCD Display

The front panel LCD display is a 2*16 alphanumerical display. It displays the status and configurations of the WireSpan 5000/5000RM. Please refer to Chapter 3 for detail operation of the LCD display.

Rear Panel

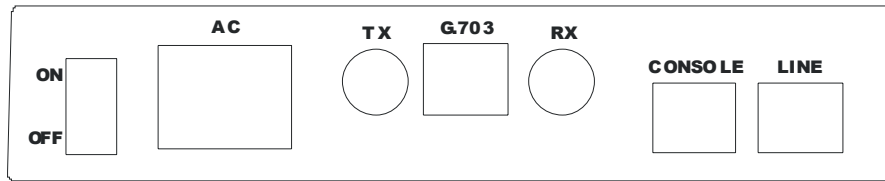


Figure 2-3 shows the rear panel of the WireSpan5000 E1 interface.

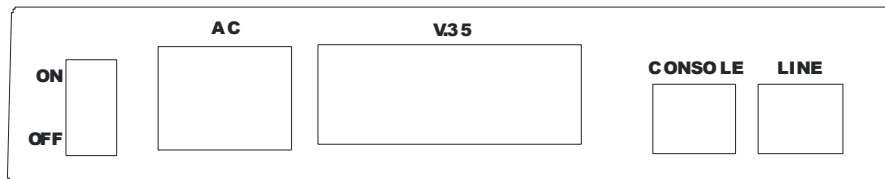


Figure 2-4 shows the rear panel of the WireSpan5000 V.35 interface.

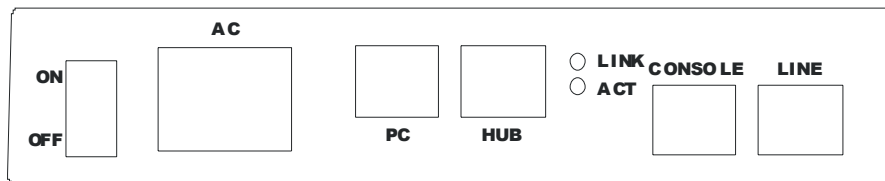


Figure 2-5 shows the rear panel of the WireSpan5000 Ethernet interface.

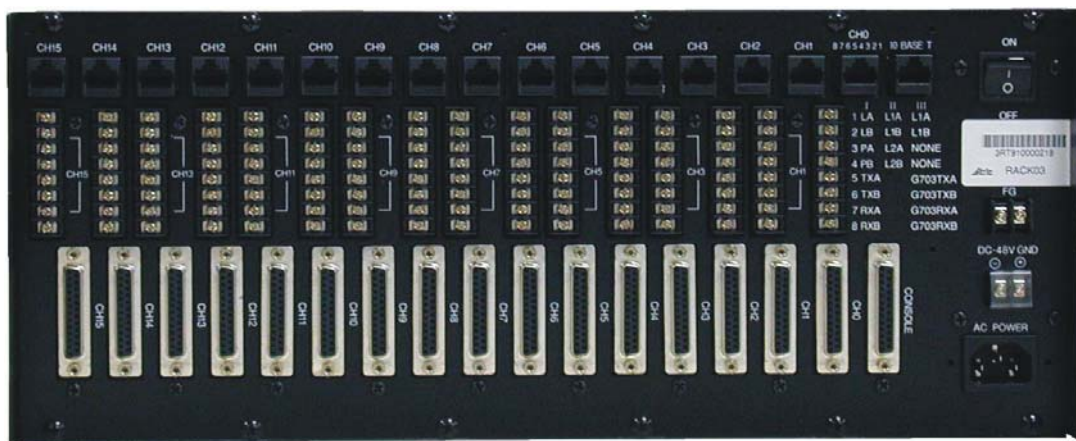


Figure 2-6 shows the rear of the WireSpan 5000RM interface

The rear panel of your WireSpan5000 contains the following connectors:

AC: AC Power Input (auto-range from AC 90V to 260V)

DC: DC Power Input (range from DC -36V to -72V)

LINE: MDSL Line Interface. Please refer to Figure 2-7 for pin definition.

G703: E1 Line Interface. Include 75 Ohm for Coaxial Cable and 120 Ohm for Twisted Pair. Please refer to Figure 2-8 for pin definition.

Warning: Do not connect to both the balanced and unbalanced connectors!

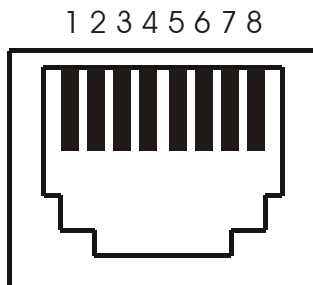
DTE: DTE Interface. Please refer to Appendix B for pin definition.

Note: this connector does not include in WireSpan5000.

CONSOLE: Console Port. Please refer to Figure 2-9□2-10 for setting and pin define.

ACT: Data transmitting/receiving status in Ethernet

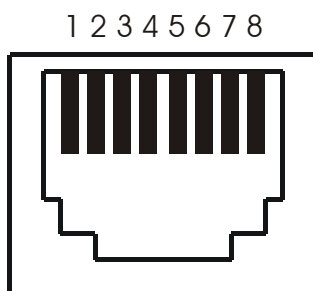
LINK: Link status in Ethernet.



Note:

- 4. TIP for SHDSL loop.
- 5. RING for SHDSL loop.

Figure 2-7 RJ-45 for SHDSL Line interface (Stand-alone Model)



Note:

- 1: Receive TIP1 for E1 loop
- 2: Receive RING1 for E1 loop
- 4: Transmit TIP2 for E1 loop
- 5: Transmit RING2 for E1 loop
- 7: Ground
- 8: Ground

Figure 2-8 RJ-48C for E1 Line interface (Stand-alone Model)



Figure 2-9 Terminal block for SHDSL and E1/G.703 line

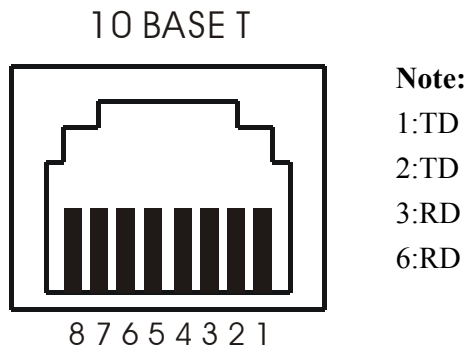


Figure 2-10 RJ-45 for LAN interface

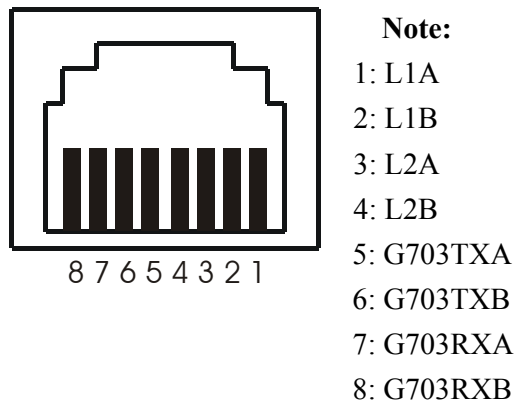


Figure 2-11 RJ-45 for SHDSL and E1/G.703 line

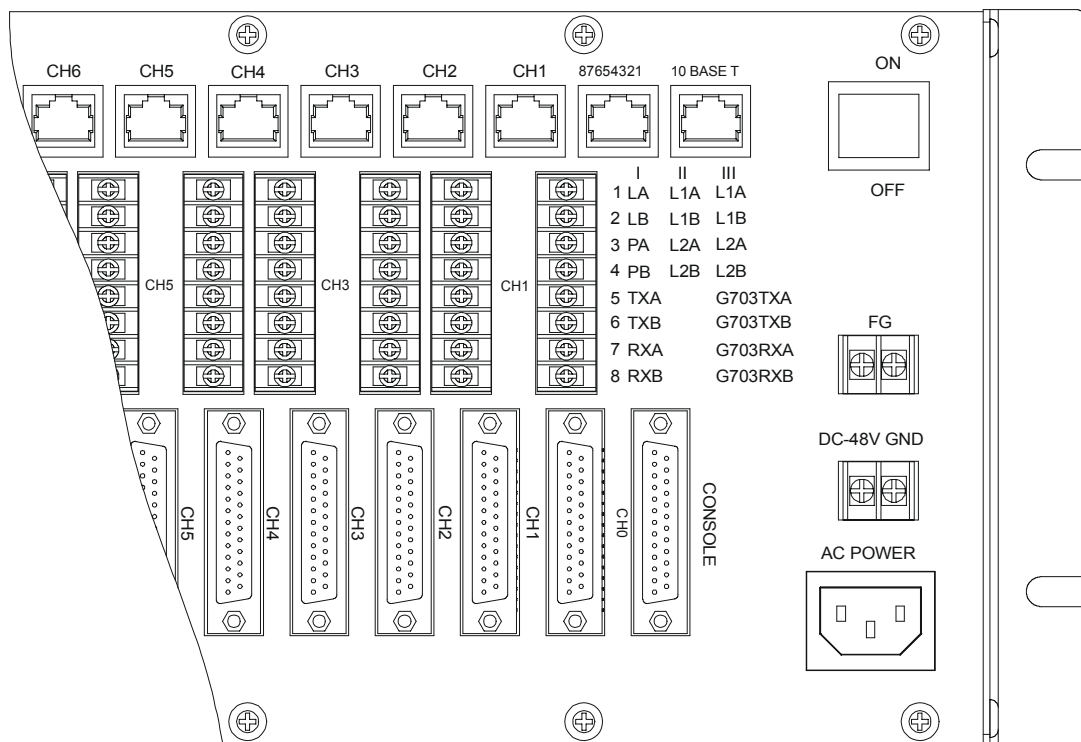
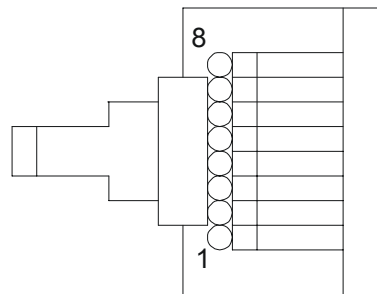
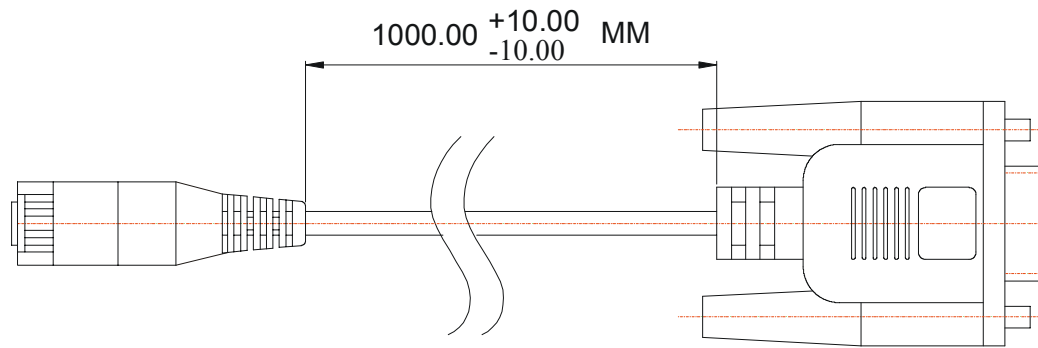


Figure 2-12 WireSpan 5000RM rear panel

Parameter	Value
Speed (Baud Rate)	38400
Data Bits	8
Parity	None
Stop Bits	1
Terminal Emulation	VT-100 or ANSI

Figure 2-13 Console port setting



A		B	
RJ45 8 PIN		RS232(DBG)(F)	
1	FG		FG
2	RTS		7
3	RXD		3
4	DCD		1
5	TXD		2
6	DTR		4
7	SG		5
8	CTS		8

Figure 2-14 RJ-45/DB-9 pin define

CHAPTER 3

Getting Start

3-1 General

In this chapter you will find detailed operating instructions for WireSpan5000/5000RM. There are two methods to control the WireSpan5000, one is using the front panel LCD controller; the other is using the console port on the rear panel.

The Front Panel LCD Controller

The front panel LCD controller consists of the LCD display and front panel switches. The menu tree consists of several categories. Each category has several options (STATUS, CONFIGURE, DIAGNOSTIC, etc.) Many of these options are configurable, while others indicate the device status. Most options contain several selectable settings. Each of the settings affects various operating characteristics. Using the front panel control keys, you can easily access the options and settings under each category. The following sections describe the major options of the menu tree. Please refer to Appendix C for detail structure of the menu tree.

Main

The main menu shows up right after power on self test. The main menu displays the current status of the device. The main menu shows as the following:

STU-C HS FIX 2048	STU-C HS FIX 2312
----------------------	----------------------

(For G.703/V.35 Interface) (For Ethernet Interface)

STU-C or STU-R: To indicate current terminal type is local (STU-C) or remote(STU-R)
FIX or AUTO: show the line rate is fix or auto detect.

STATUS

This category shows the DSL Status, TS Status, E1 Status, DTE Status, PERF Monitor.

DSL Status: Displays the current MDSL loop status of the WireSpan5000/5000RM.

The status includes: CRC error, far end signal attenuation, noise margin, PLL lock, DSL version.

TS Status: Displays the current E1 timeslot status of WireSpan5000/5000RM.

E1 Status: Displays the current E1 status of the WireSpan5000/5000RM.

The status includes: LOF (Loss Of Frame), BPV(Bipolar Violation),

FERR (Framing Error), CERR(CRC Error), LCV(Line Code Violation),
DTE Status: Display the current DTE status. The status includes: RTS, CTS, DSR, DTR,
DCD, TST.
LAN Status: Display the current LAN status. The status includes:10M/100M LAN speed,
FULL/HALF duplex, LINK UP/DOWN.

CONFIGURE

The configure category configures the WireSpan5000/5000RM.

DSL Setup: Configure the DSL parameters, such as: DSL type, DSL speed.

DTE Setup: Configures the DTE parameters, such as: INF clock, Clki polarity, Clko
polarity, DCD, DSR, CTS option.

E1 Setup: Configure the E1 parameters, Framing, Interface, Idle code, Line coding, Ts0
insert.

Clock source: Configure clock parameters, such as: Internal, External.

Aux: Configure aux parameters, such as: Set keylock, Keylock password, PERM auto
claern.

TS Mapping: Configure the timeslots mapping,

DSL Re-link: Re-link the DSL line.

NOTE: When change any setting. You must be re-link the DSL line.

SYS RST: Reset to the default parameters.

DIAGNOSTIC

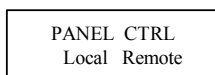
The diagnostic allows user to do variety of loop back to assist user in isolating network
problem.

PROFILE

The WireSpan5000/5000RM supports 5 user profiles to save for future
use. Also provide four factory default profiles to load.

Menu Tree Operation

MAIN



You can configure the WireSpan 5000/5000RM of central side (L) or remote side (R) at
the central side.

1. STATUS MENU



This Menu shows the DSL STATUS, E1 STATUS and other status display.

2. CONFIGURE MENU



You can configure the WireSpan5000/5000RM through this menu to get the best performance.

3. DIAGNOSTIC MENU (Ethernet interface not supported)



This menu provide self-test, helping user to find out the problem and fix it.

4. PROFILE MENU



This menu provides the user 5 user profile to save or load, also provide the factory setting.

1. STATUS MENU



1.1 DSL STATUS

Press ENTER key to enter DSL status menu.



This screen shows the DSL Loop status, press ENTER to show loop status.

1.1.1 HDSL CRC ERROR COUNT STATUS SCREEN

CERR L1:***
L2:***

Press Right key shows the CERR STATUS.

1.1.2 FAR-END SIGNAL ATTENUATION DISPLAY

FESAL1:*** db
L2:*** db

Press Right key shows the FESA STATUS.

1.1.3 NOISE MARGIN DISPLAY

NMR L1:*** db
L2:*** db

This screen shows the DSL Loop receiving Noise Margin. Press Right key to show the Noise Margin Display.

1.1.4 PLL LOCK DISPLAY (Ethernet interface not supported) (See the APPENDIX D-2)

PLLK L1:*
L2:N/A

This screen shows the DSL PLL Lock status. Press Right key to show it.

1.1.5 DSP VERSION DISPLAY (See the APPENDIX D-2)

DSP:X3
AFE:X5

This screen shows the DSP version. Press Right key to show it.

1.2 DTE STATUS (Only support V.35, X.21, EIA530, RS449 interface) (See the APPENDIX D-2)

<STATUS>
DTE

This screen displays WireSpan 5000/5000RM DTE interface signal status.
Press ENTER to show the signal status.

RTS_CTS_TST_
DSR_DTR_DCD_

This screen display the DTE interface control signal status.

1.2 TS STATUS (Only support E1 interface) (See the APPENDIX C-2)

<STATUS>
TS STATUS

This screen displays WireSpan 5000/5000RM E1 timeslot mapping status.
Press ENTER to show the signal status.

[CH00~07]
* * * * *

This screen display the E1 timeslot 0 ~ 7 mapping status.

[CH08~15]
* * * * *

This screen display the E1 timeslot 8 ~ 15 mapping status. Press Right key to show it.

[CH16~23]
* * * * *

This screen display the E1 timeslot 16 ~ 23 mapping status. Press Right key to show it.

[CH24~31]
* * * * *

This screen display the E1 timeslot 24 ~ 31 mapping status. Press Right key to show it.

1.3 E1 STATUS (Only support E1 interface) (See the APPENDIX C-2)

<STATUS>
E1 STATUS

This screen displays WireSpan 5000/5000RM E1 interface signal status.
Press ENTER to show the signal status.

1.3.1 E1 LOCAL STATUS (See the APPENDIX C-2)

LOF *
BPV *

LOF = Loss Frame

BPV = Bipolar Violation

There will be * mark shown beside each alarm if present.

1.3.2 FRAMING ERROR AND CRC ERROR COUNTER (See the APPENDIX C-2)

FERR:*****
CERR:*****

FERR = Framing Error count

CERR = CRC Error count

This screen displays WireSpan 5000/5000RM E1 framing error and CRC error count.

Press Right key to show the signal status.

LCV:***
FEBE:***

LCV = Line Code Violation count

FEBE = Far-End Block Error count

This screen displays WireSpan 5000/5000RM E1 LCV error and FEBE error count.

Press Right key to show the signal status.

1.2 Ethernet STATUS (Only support Ethernet interface) (See the APPENDIX E-2)

<STATUS>
LAN STATUS

This screen displays WireSpan 5000/5000RM Ethernet interface signal status.

Press ENTER to show the signal status.

100M FULL
LINK UP

This screen display the Ethernet interface signal status of linking up/down, 10M/100M, full/half duplex.

1.3 PERFORMANCE MONITOR (See the APPENDIX E-2)

<STATUS>
PERF MONITOR

The performance monitor shows the E1 and DSL Receiving signal performance.

Press the ENTER key to enter the performance screen.

1.3.2 E1 or DSL PERFORMANCE MONITOR (15 MINUTES) (See the APPENDIX E-2)

<<<XXX PERF>>>
15MES

15M ES: 15 MINUTE ERROR SECOND

The error second count during last 15 minutes. Press Right key to show the signal status

1.3.3 E1 or DSL SEVERELY PERFORMANCE MONITOR (15 MINUTES) (See the APPENDIX E-2)

<<<XXX PERF>>>
15MSES

15M SES: 15 MINUTES SEVERELY ERROR SECOND

The second count of error more than 30% in each second during last 15 minutes.

Press Right key to show it.

1.3.4 E1 or DSL PERFORMANCE MONITOR (24 HOURS) (See the APPENDIX E-2)

<<<XXX PERF>>>
24HES

24H ES: 24 HOURS ERROR SECOND

Press Right key to show it.

1.3.5 E1 or DSL SEVERELY PERFORMANCE MONITOR (24 HOURS) (See the APPENDIX E-2)

<<<XXX PERF>>>
24HSES

24H SES: 24 HOURS SEVERELY ERROR SECOND

Press Right key to show it.

2. CONFIGURE MENU

[MAIN]
CONFIGURE

2.1 DSL CONFIGURE MENU

<CONFIGURE>
DSL

This screen can configure the DSL parameter. Press ENTER key to enter DSL setup screen.

2.1.1 DSL TYPE SELECT

<<DSL SETUP>>
DSL TYPE

Use this screen to select central or remote. Two connecting modems must be set to one central and the other remote, otherwise it will not connect. Press ENTER key to select. Use the Left or Right key to select then press ENTER to confirm.

[DSL TYPE]
STU-C* STU-R

NOTE: You must RE-LINK the line when change any setting

2.1.2 DSL SPEED SELECT (E1 interface not supported) (See the APPENDIX D-3)

<<DSL SETUP>>
DSL SPEED

Use this screen to select the DSL line speed. You can select line speed by manual or auto detect. Press the Left or Right key to select then press ENTER to confirm.

2.1.2.1 MANUAL SPEED MENU (See the APPENDIX D-3)

<<<DSL SPEED>>>
MULTIRATE*

Use this screen to select the DSL line speed by manual.

The data rate can be N x 64K (N = 1~36). (For V.35 Interface)

The data rate can be N x 64K (N = 3~36). (For Ethernet Interface)

[DSL RATE]

2.1.2.1.1 AUTO SPEED MENU (See the APPENDIX D-3)

<<<DSL SPEED>>>
AUTO

Use this screen to select the DSL line speed by auto detect.

2.2 DTE CONFIGURE MENU (only support V.35, X.21, EIA530, RS449 interface)

<CONFIGURE>
DTE

This screen can configure the DTE parameter. Press ENTER key to enter DTE setup screen.

2.2.2 CLOCK INPUT POLARITY (See the APPENDIX D-3)

<<DTE SETUP>>
CLKI POLARITY

This screen selects the polarity of the clock input.

[CLKI INV]
NORM* INV

Select the Normal or Inverse input of clock signal.

2.2.3 CLOCK OUTPUT POLARITY (See the APPENDIX D-3)

<<DTE SETUP>>
CLKO POLARITY

This screen selects the polarity of the clock output.

[CLKO INV]
NORM* INV

Select the Normal or Inverse output of clock signal.

2.2.4 DCD OPTION (See the APPENDIX D-3)

<<DTE SETUP>>
DCD OPTION

Press ENTER key to select DCD option.

[DCD]
NORMAL

Select the desire option for DCD signal.

[DCD]
ALWAYS ON

2.2.5 DSR OPTION (See the APPENDIX D-3)

<<DTE SETUP>>
DSR OPTION

Press ENTER key to select DSR option.

[DSR]
ALWAYS ON

Select the desire option for DSR signal.

[DSR]
FOLLOW DTR

2.2.6 CTS OPTION (See the APPENDIX D-3)

<<DTE SETUP>>
CTS OPTION

Press ENTER key to select CTS option.

[CTS]
ALWAYS ON

Select the desire option for CTS signal.

[CTS]
FOLLOW RTS

2.2 E1 CONFIGURE MENU (See the APPENDIX C-3)

<CONFIGURE>
E1

This screen can configure the E1 parameter. Press ENTER to enter E1 Framing setup

screen.

2.2.1 E1 FRAMING SETUP SCREEN (See the APPENDIX C-3)

<<E1 SETUP>>
FRAMING

Press ENTER to select E1 Framing.

[FRAMING]
FRAMED

Press Left or Right key to select FRAMED or FRAMED CRC or UNFRAMED.

[FRAMING]
FRAMED CRC

[FRAMING]
UNFRAMED

2.2.2 E1 INTERFACE SELECT (See the APPENDIX C-3)

<<E1 SETUP>>
INTERFACE

Select the desire Interface for E1. The WireSpan5000/5000RM provide RJ45 with 120 Ohm or BNC connector with 75 Ohm. Press ENTER to select. Use the Left or Right key to select then press ENRER to confirm.

[INTERFACE]
120 OHM TP

[INTERFACE]
75 OHM COAXIAL

2.2.3 E1 IDLE CODE SELECT (See the APPENDIX C-3)

<<E1 SETUP>>
IDLE CODE

There are two idle codes for selection. Press ENTER to select.

[IDL CODE]
7F* FF

Use Left or Right key to select "7F" or "FF" idle code.

2.2.4 E1 LINE CODING SELECT (See the APPENDIX C-3)

<<E1 SETUP>>
LINE CODING

There are two methods of line coding. Press ENTER to select.

[CODING]
HDB3* AMI

Use Left or Right key to select AMI or HDB3 line coding.

2.2.5 E1 TIMESLOT0 INSERT SELECT (See the APPENDIX C-3)

<<E1 SETUP>>
TS0 INSERT

There are two methods of line coding. Press ENTER to select.

[TS0 INSERT]
YES NO *

Use Left or Right key to select YES to insert E1 framing. **NOTE: When one side is E1 interface and the other side is use DTE interface, this option must be set to “YES”.**

2.3 CLOCK SOURCE CONFIGURE MENU (only supported in STU-C side) (Ethernet interface not supported)

<CONFIGURE>
CLK SOURCE

There are INTERNAL, EXTERNAL clock sources. Use Left or Right key to select desire clock source.

[CLK SRC]
INTERNAL

[CLK SRC]
EXTERNAL

2.4 AUX CONFIGURE MENU

<CONFIGURE>
AUX

2.4.1 KEYLOCK SETTING

<<AUX>>
SET KEYLOCK

This screen allows user to lock the four front panel keys. You must key in password before activate, the key lock function. Use Left or Right key to select key lock ON/OFF.

[KEY LOCK]
ON OFF*

2.4.2.1 KEYLOCK PASSWORD SETTING

[OLD PWD ?]
IN:****

The password contains ten numerical characters. You must enter 10 digit of number. If you want to change old password, you have to enter old password first, then enter the new password.

[NEW PWD ?]
IN:****

2.4.3 PERFORMANCE ATUO CLEAR SETTING

<<AUX>>
PERM AUTO CLR

This screen will auto clears all performance error counter when the line link is up.

[PM AUTOCLR]
ON* OFF

2.5 TIMESLOT MAPPING CONFIGURE MENU (only supported in E1 interface) (See the APPENDIX C-4)

<CONFIGURE>
TS MAPPING

The WireSpan 5000/5000RM provides Fractional E1 function. In this function , it allows user to assign every 64 kbps bandwidth to be used in E1 interface. Please note that each STU-C and STU-R to be connected must be assigned in same Timeslot Mapping.

[ALL TS]
*

In this screen, You can select all timeslots in E1 or Idle mode.

[CH00~07]
F * * * * *

In this screen, You can assign any channel from CH01 up to Ch31.

[CH08~15]
* * * * *

[CH16~23]
* * * * *

[CH24~31]
* * * * *

NOTE: The timeslot mapping will decide the line connect rate.

2.5 DSL RE-LINK CONFIGURE MENU

<CONFIGURE>
DSL RELINK

In this screen, You can re-link the DSL line. It is must to do when you change any setting.

NOTE: When you change any setting. You must re-link the DSL line and the parameter will be executed.

[DSL RELINK]
YES* NO

2.6 SYSTEM RESET CONFIGURE MENU

**<CONFIGURE>
SYS RST**

Press ENTER key to enter SYSTEM RESET screen.

**[SYS RST]
YES* NO**

Use Left or Right key to select YES then press ENTER.

3. DIAGNOSTIC MENU (Ethernet interface not supported)

**[MAIN]
DIAGNOSTIC**

Through the diagnostic, the user can separate and fix the communication problem. There are three loopback test. Detail test description will be found on Chapter 4.

3.1 LOCAL ANALOG LOOPBACK MENU (See the APPENDIX C-5;D-5)

**<DIAGNOSTIC>
LLB**

Pressing the ENTER key activates the local analog loopback. The local analog loopback returns the data sent by the local equipment.

3.2 LOCAL DIGITAL LOOPBACK MENU (See the APPENDIX C-5;D-5)

**<DIAGNOSTIC>
DLB**

Pressing the ENTER key activates the local digital loopback. The local digital loopback returns the data sent by the remote equipment.

3.3 REMOTE DIGITAL LOOPBACK MENU (only supported in STU-C) (See the APPENDIX C-5;D-5)

**<DIAGNOSTIC>
RDL**

Pressing the ENTER key activates the remote digital loopback. This causes a loopback activation command to be sent in-band to remote WireSpan5000/5000RM.

3.4 TEST PATTERN MENU (See the APPENDIX C-5;D-5)

<DIAGNOSTIC>
TP

Pressing the ENTER key activates the BER testing. Detail test description will be found on Chapter 4.

[ERR COUNT]

4 PROFILE MENU

[MAIN]
PROFILE

There are four preset profiles for user to load, and five user profiles can be saved by user for later load.

4.1 LOAD PROFILE MENU

<PROFILE>
LOAD

[LOAD]
1* 2 3 4 5

Use Left or Right key to select profile and press ENTER to load.

4.2 SAVE PROFILE MENU

<PROFILE>
SAVE

[SAVE]
1* 2 3 4 5

Use Left or Right key to select profile and press ENTER to save.

4.3 LOAD DEFAULT PROFILE

<PROFILE>
LOAD DEFAULT

There are four factory default for user to load. Use Left or Right key to select and ENTER

to load.

E1 INTERFACE (See the APPENDIX C-5)

[1:STU-C]
FAS 120

[2:STU-R]
FAS 120

[3:STU-C]
FAS+CRC 75

[4:STU-R]
FAS+CRC 75

V.35 INTERFACE (See the APPENDIX D-5)

[1:STU-C]
FIX 2048

[2:STU-R]
FIX 2048

[3:STU-C]
AUTO

[4:STU-R]
AUTO

Ethernet INTERFACE (See the APPENDIX E-4)

[1:STU-C]
FIX 2312

[2:STU-R]
FIX 2312

[3:STU-C]
FIX 200

[4:STU-R]
FIX 200

CHAPTER 4

Diagnostic & Troubleshooting

4-1 General

This chapter presents information related to the Wirespan 5000/5000RM diagnostics functions. The information presented in this chapter include:

4.1 User-controlled test functions.

4.2 Troubleshooting.

4-2 User-Controlled Test Functions

Loopback Function

The user-controlled test functions are activated by means of the buttons and LCD screen.

Local Analog Loopback

Pressing the LLB screen activates the local analog loopback. The local analog Loopback returns the data sent by the local user's equipment (DTE) towards the local user's equipment. Connecting the main link performs the loopback transmit signal to the input of the receive path within the DSL line interface, as Shown in Figure 4-1. The test signal is provided by the local DTE, that must receive its own transmission.

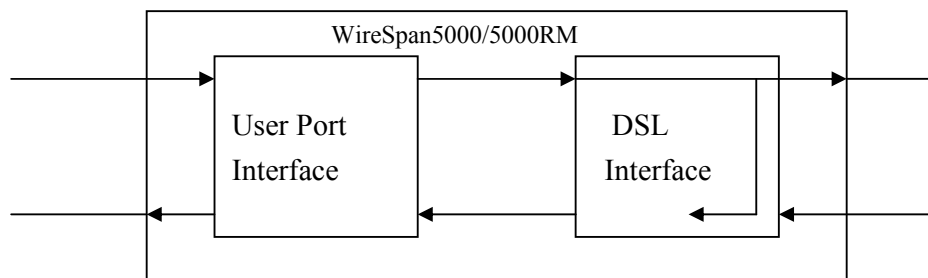


Figure 4-1 Local Analog Loopback

Local Digital Loopback

Pressing the DLB screen activates the local digital loopback. The local digital loopback returns the data sent by the remote user's equipment towards the remote User's equipment. The signal paths are shown in Figure 4-2.

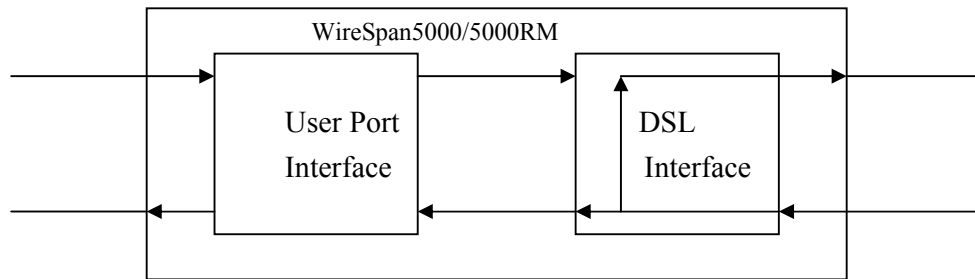


Figure 4-2 Local Digital Loopback

Remote Digital Loopback (only supported in STU-C)

Pressing the RDL screen activates the remote digital loopback. This causes a loopback activation command to be sent in-band to the remote WireSpan 5000/5000RM, thus User's data transmission is interrupted immediately. Since the code is sent via the DSL line, the loopback will be connected only if the remote WireSpan 5000/5000RM can receive the activation code.

If loopback connection is confirmed, the TEST indicator will turn on.

The remote digital loopback returns the data sent by the local user's equipment towards the local user's equipment. The loopback is performed by connecting the remote data port receive signal to the input of the data port transmit path, within the data port interfaces of the remote WireSpan 5000/5000RM. Signal paths are shown in Figure 4-3. The test signal is provided by the local DTE, that must receive its own transmission.

This test fully checks the data link, including the cables connecting the local DTE to The WireSpan 5000/5000RM, the remote WireSpan 5000/5000RM, the DSL line connecting the two WireSpan 5000/5000RM..

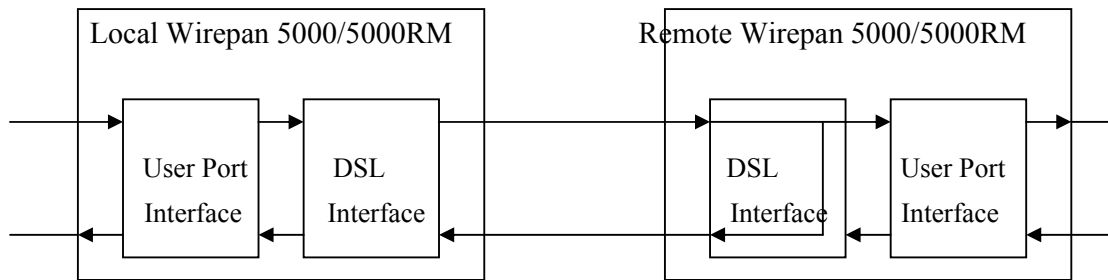


Figure 4-3 Remote Digital Loopback

BER Testing

Pressing the PT screen activates BER testing. During the test, the Internal pattern generator connects a digital test signal to the transmit input of the local data channel interface. The test signal is a 2047 sequence. The transmitted data can either be returned to the receive path by means of a loop somewhere along the data path (e.g., by connecting the local analog loopback or the remote digital loopback), or a similar sequence can be transmitted from the other end of the data channel (by simultaneously pressing the PT screen at the remote WireSpan 5000/5000RM, or by connecting a test pattern generator).

The receive path output signal is connected to a pattern evaluator. The evaluator compares the received and transmitted patterns and detects errors. The Result is presented by means of the ERR COUNT that has been detected during the testing. This test is used to obtain a rapid qualitative evaluation of data transmission without using external test equipment.

4-3 Troubleshooting Instructions

Preliminary Checks

In case a problem occurs, perform the following preliminary checks:

- ◆ Check the configuration of the local and remote WireSpan 5000/5000RM units against the prescribed configuration
- ◆ Check cable connections, and the equipment used on the DSL line connecting the local WireSpan 5000/5000RM to the remote equipment
- ◆ Observe the front-panel indicators and analyze the indications. Refer to *Status Indications* for descriptions of indicator functions.

Troubleshooting

If the trouble cannot be corrected by performing the preliminary checks listed above, use the information in *Table 4-1* to identify the trouble symptoms and perform the actions listed under Corrective Measures in the order given until the problem is corrected.

If the problem cannot be corrected by carrying out the listed actions, have the WireSpan 5000/5000RM check by the technical support personnel.

Table 4-1 Troubleshooting Chart

N	Trouble Symptoms	Probable Cause	Corrective Measures
1	WireSpan 5000/5000RM are dead (all the indicators,including PWR, are off)	1. No power 2. Defective WireSpan 5000/5000RM	Check that both ends of the WireSpan 5000/5000RM power cable are properly connected, and that power is available at the outlet Replace the WireSpan 5000/5000RM
2	Local WireSpan 5000 /5000RM reports sync loss	1. External problem	Activate the local loopback. Check that local WireSpan 5000/5000RM SYN indicator is ON. If the indicator is ON, the problem is external
3	BPV indicator on the local Wirespan 5000 /5000RM blinks	1. Defective Wirespan 5000 /5000RM 2. Problems on the E1 link	Activate the local loopback. Check that the local WireSpan 5000/5000RM SYN indicator is On.If indicator off, turn the local Wirespan 5000/5000RM on with the local loopback activated.Check that the BPV and AIS alarm indicator turns off. If not, replace the WireSpan 5000/5000RM Troubleshoot the E1 link between the local and the remote WireSpan 5000/5000RM
4	Data port control signals are off	1. Local user's equipment is off, or is idle 2. Defective cable	Check that the user's quipment is powered, and its control signal lines are asserted. Perform self-test on the equipment Activate the local loopback, and check that the local user;s equipment receives its own transmission. If not, replace the cable connecting it to the Wirespan 5000/5000RM
5	Local equipment does not receive the data sent by the remote equipment	1. External problem 2. Problem at local end 3. Problem at remote end	Activate the digital loopback, and check remote E1 equipment receives its own transmission. If not, troubleshoot the remote Wirespan 5000/5000RM and thee E1 link Perform the activities listed in No.4 above Perform the activities listed in No.4 above
6	No transmission of data	Data port interface not inserted correctly	Re-insert data port interface cable

APPENDIX A

Interface Specifications

◆ A.1 E1 Balanced Port Connector

The E1 balance port interface is terminated in an eight-pin RJ-48C connector, Designated E1 LINK, and wired in accordance with Table A-1.

Pin	Function
1	Receiver Data In (tip)
2	Receiver Data In (ring)
3	Not Connected
4	Transmit Data Out (tip)
5	Transmit Data Out (ring)
6	Not Connected
7	Shield
8	Shield

Table A-1. E1 LINK Connector, Pin Allocation

APPENDIX B

Pin Assignment & Cable Definition

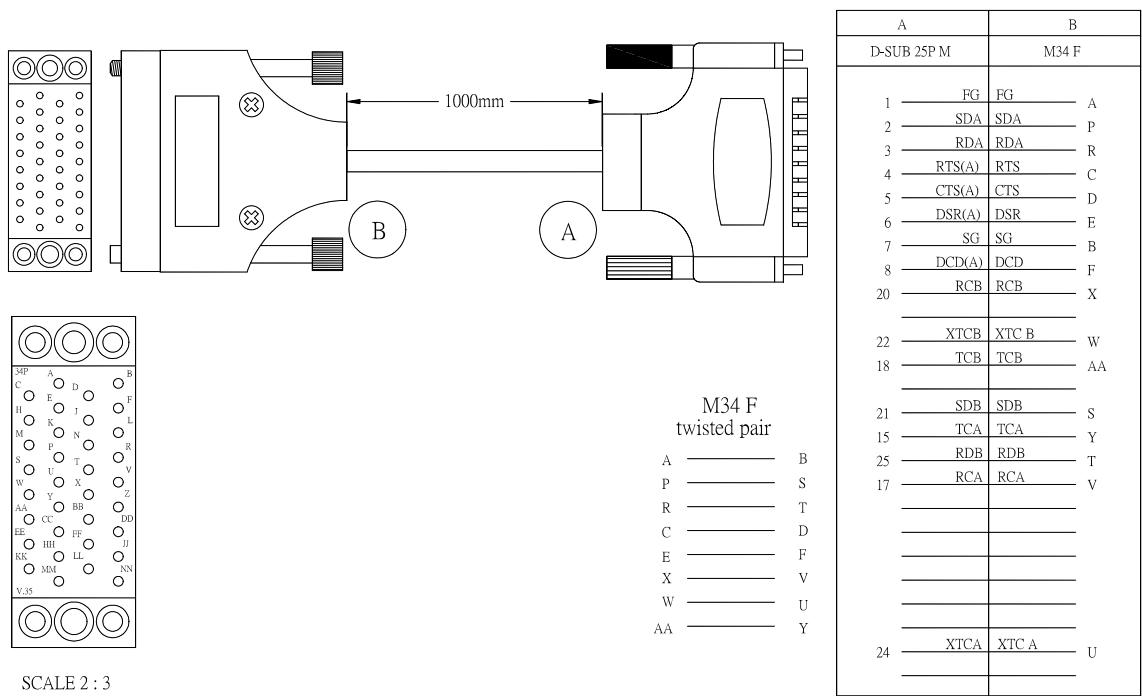
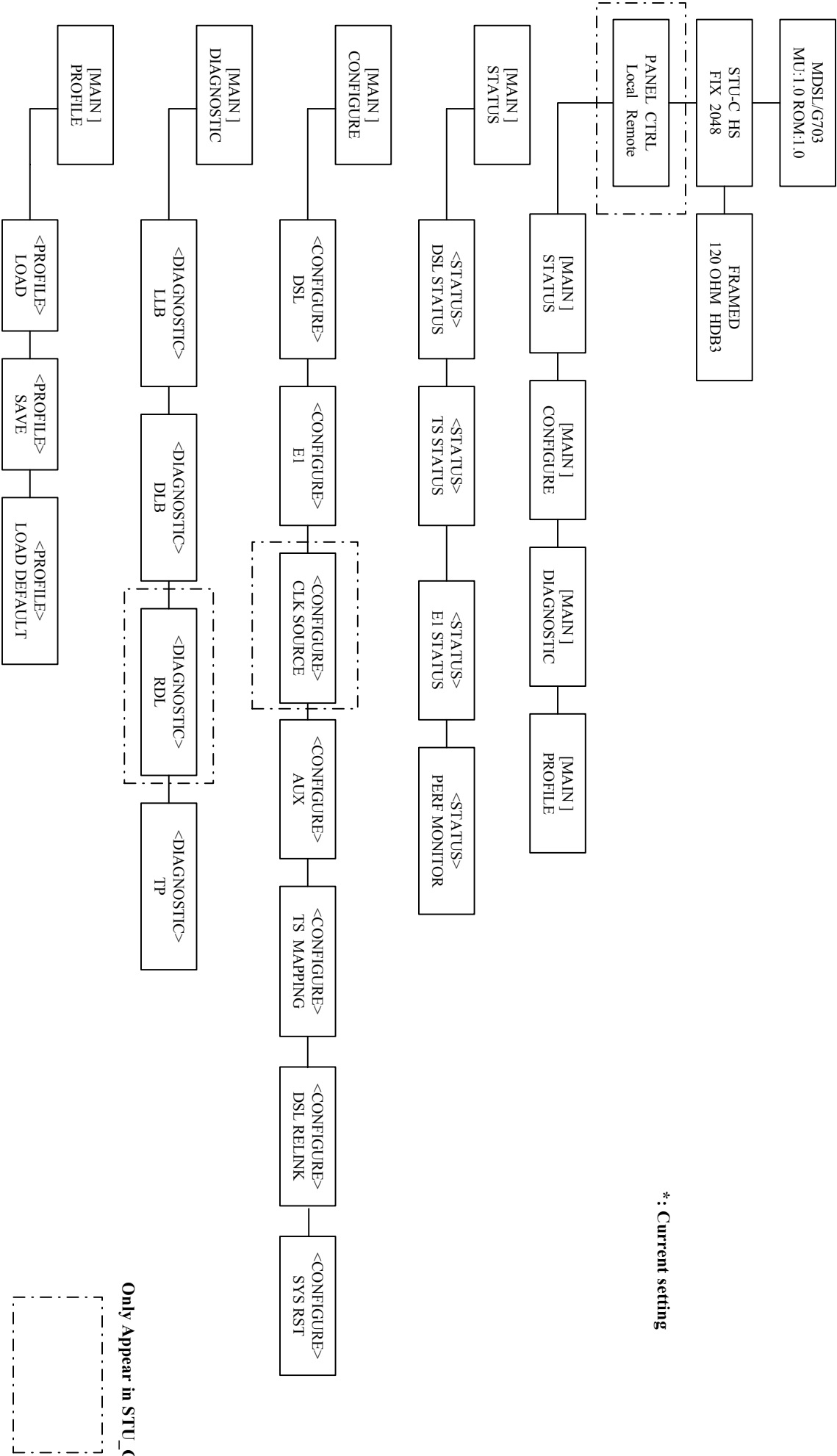
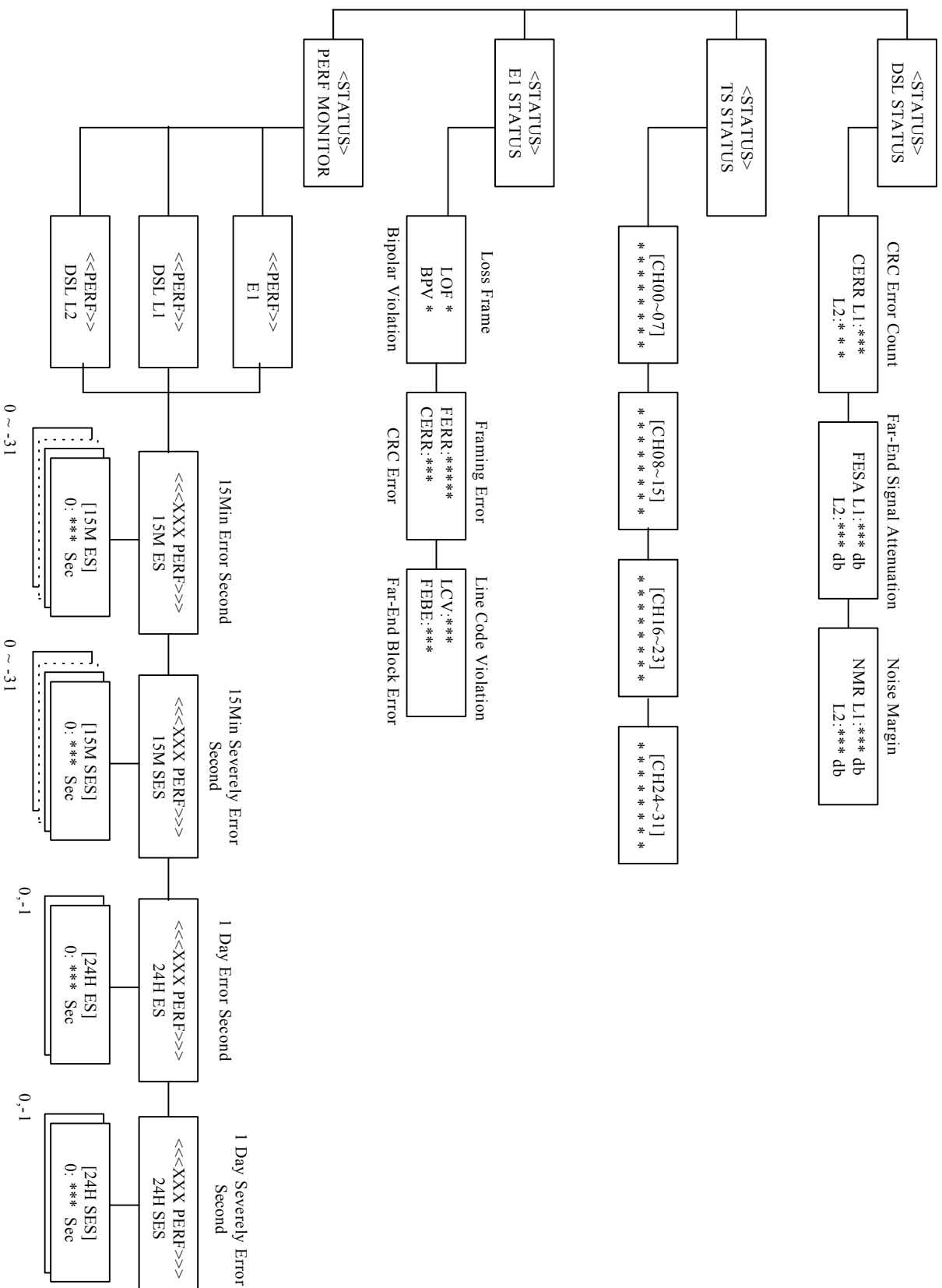


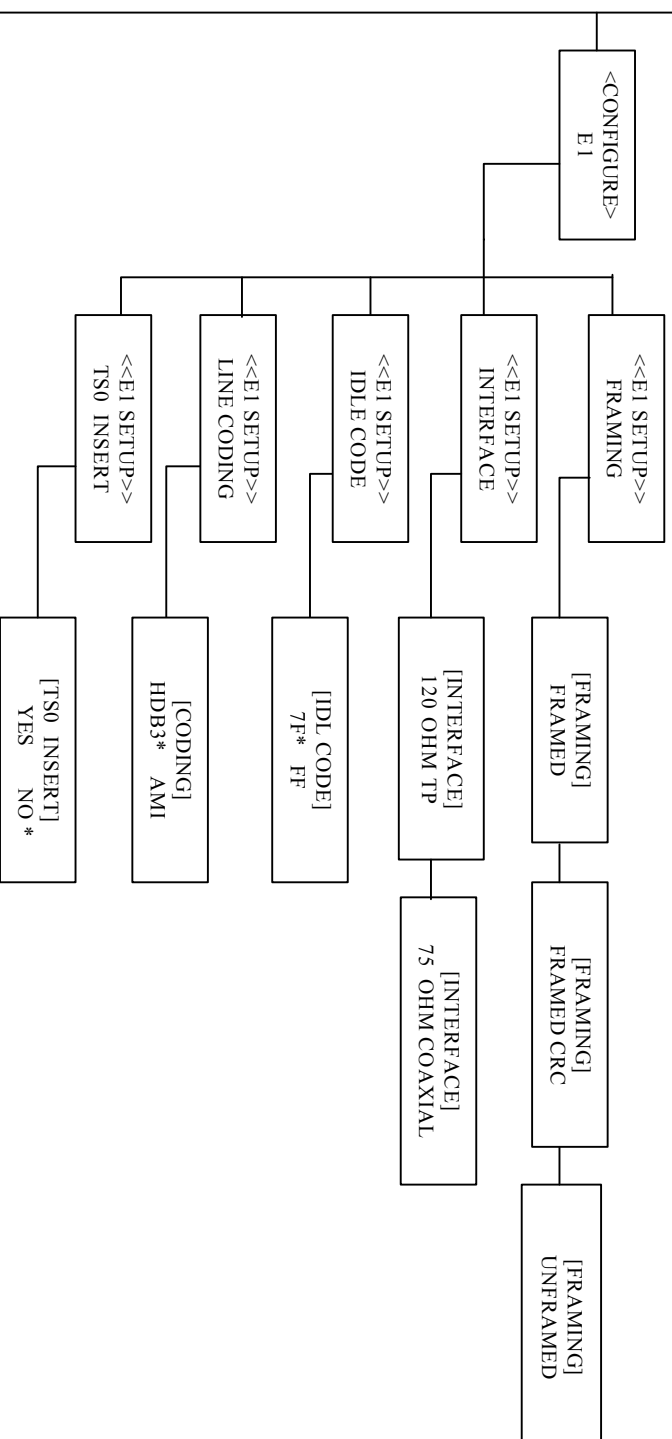
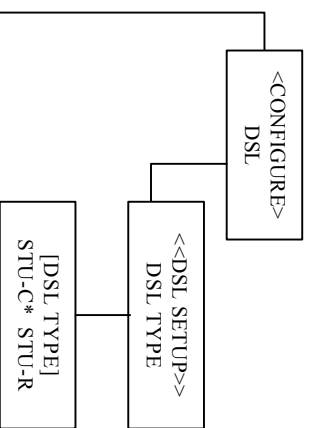
Figure B-1 Dedicated V.35 Change-Cable Definition

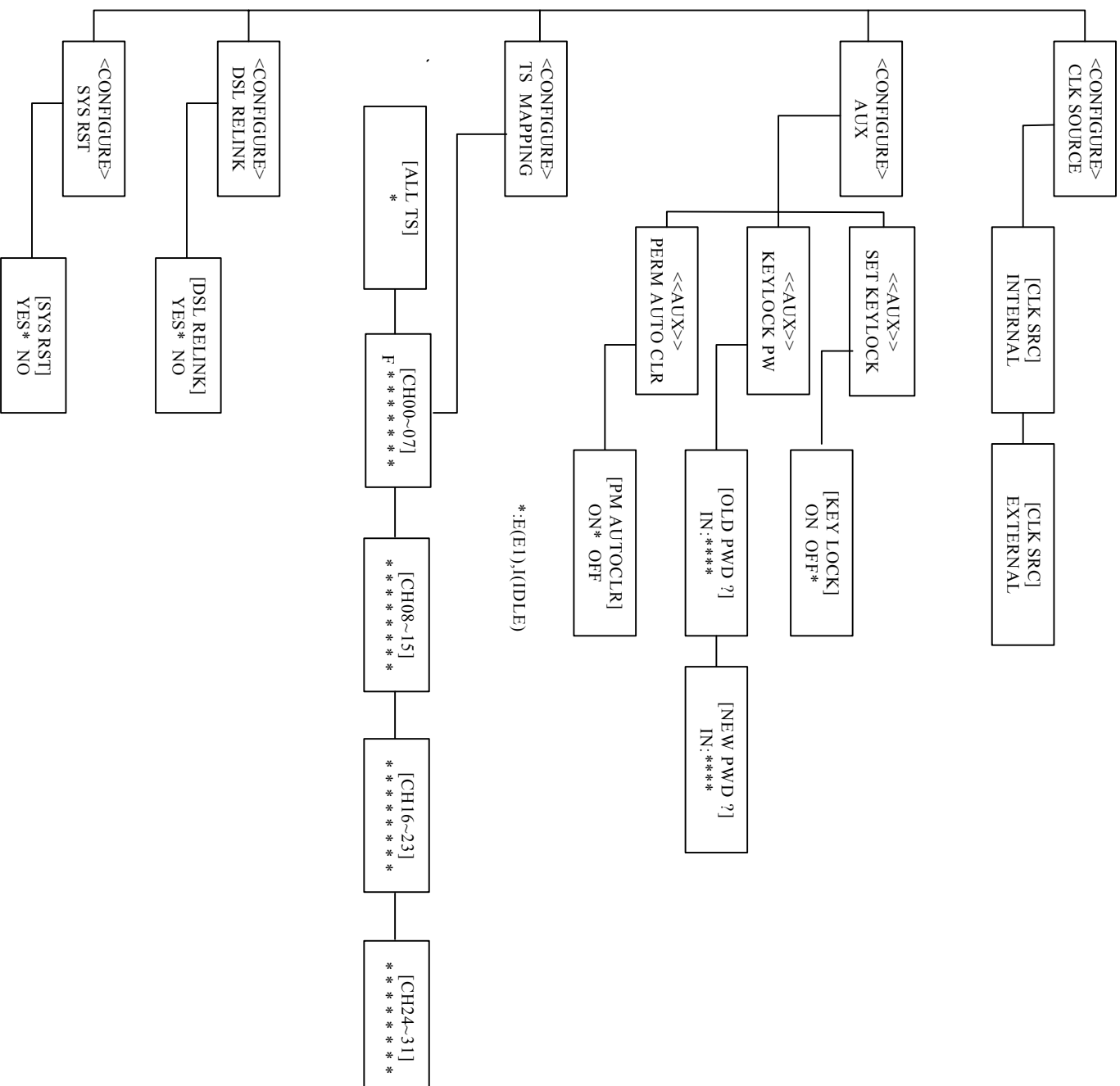
APPENDIX C

MDSL/G.703 MENU TREE

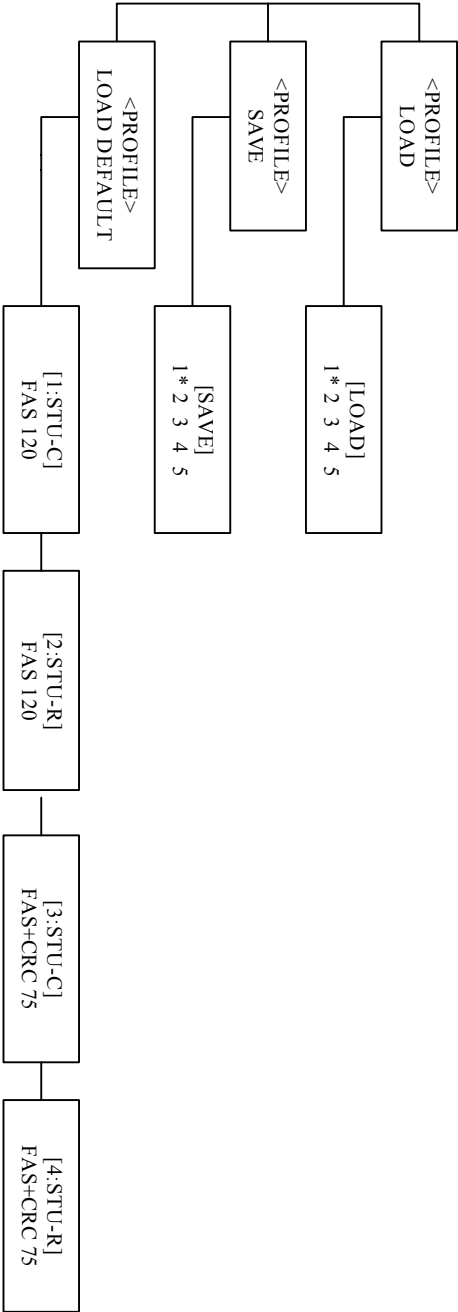
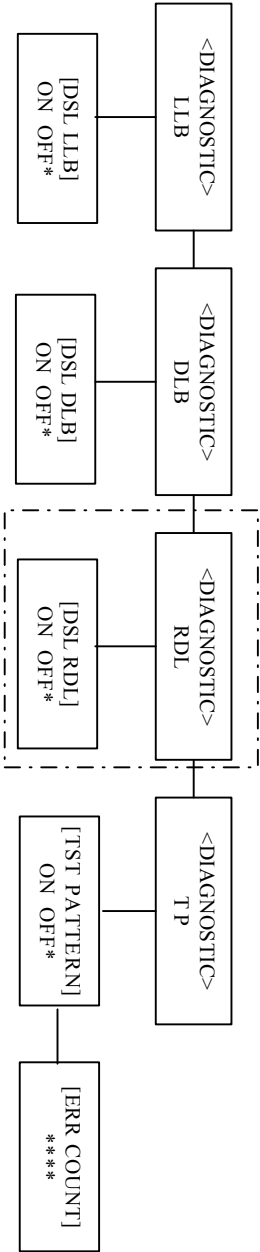






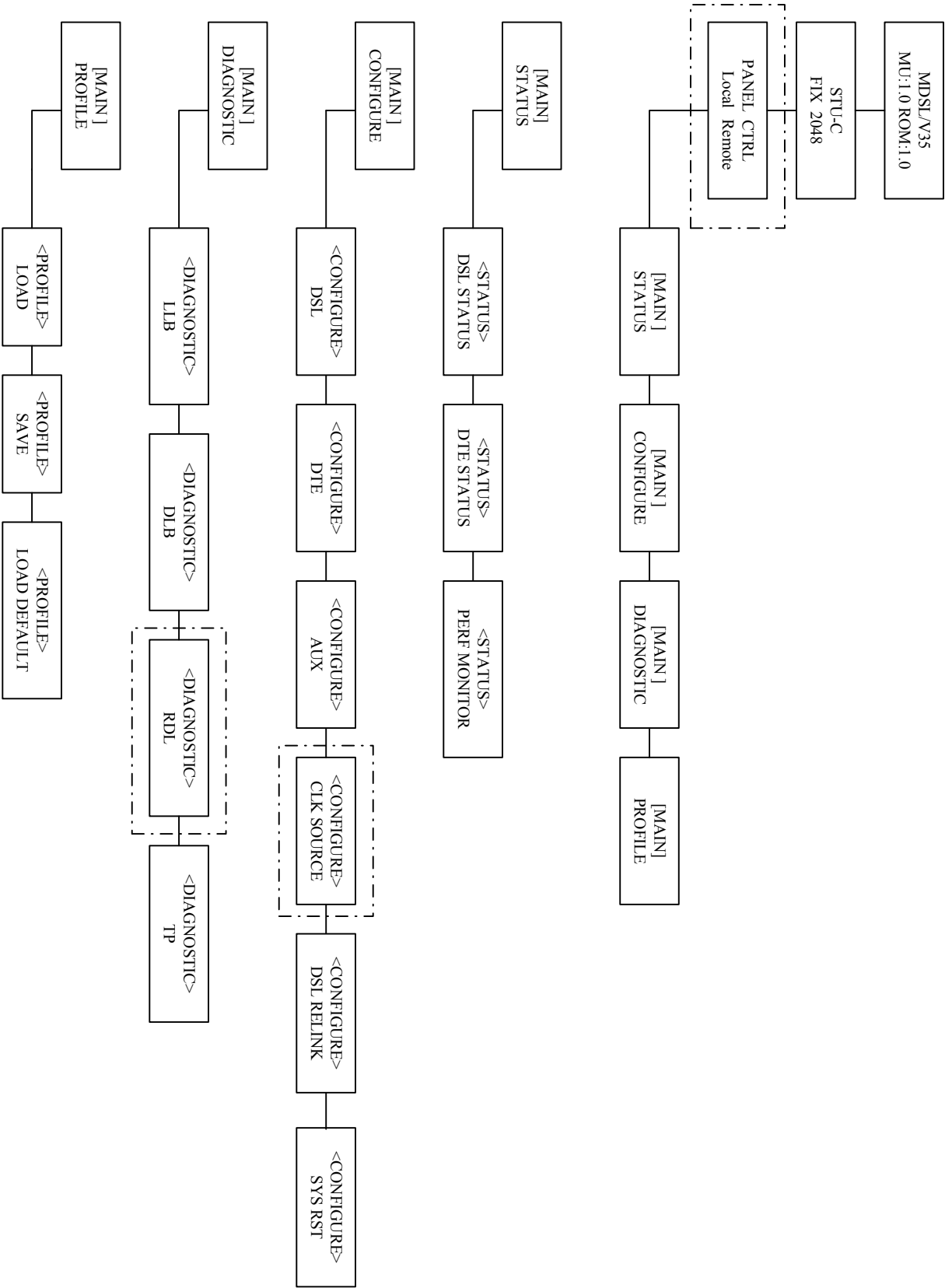


*,E(E),I(IDLE)



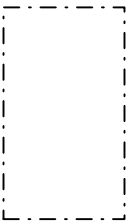
APPENDIX D

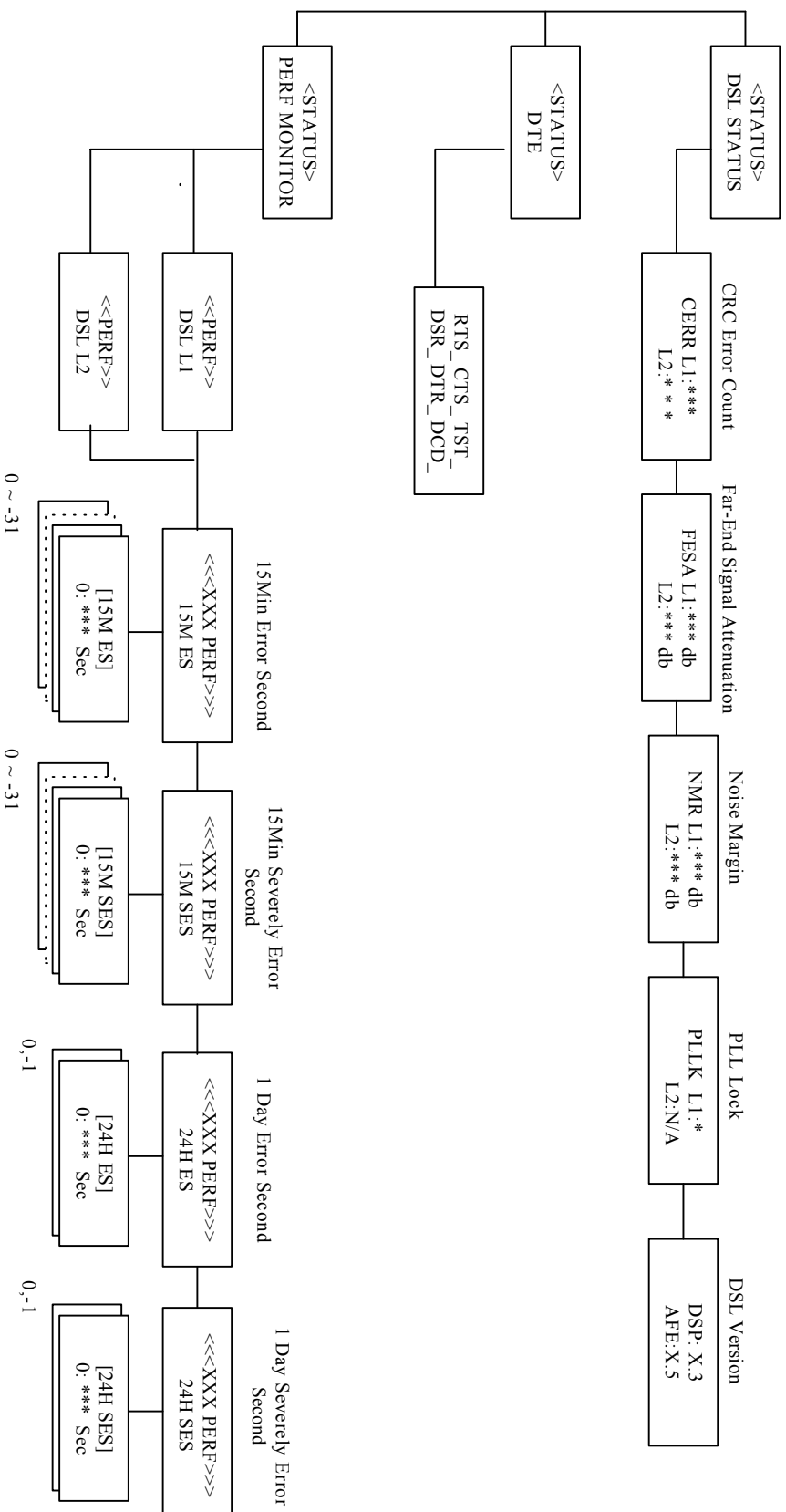
MDSL/V.35 MENU TREE

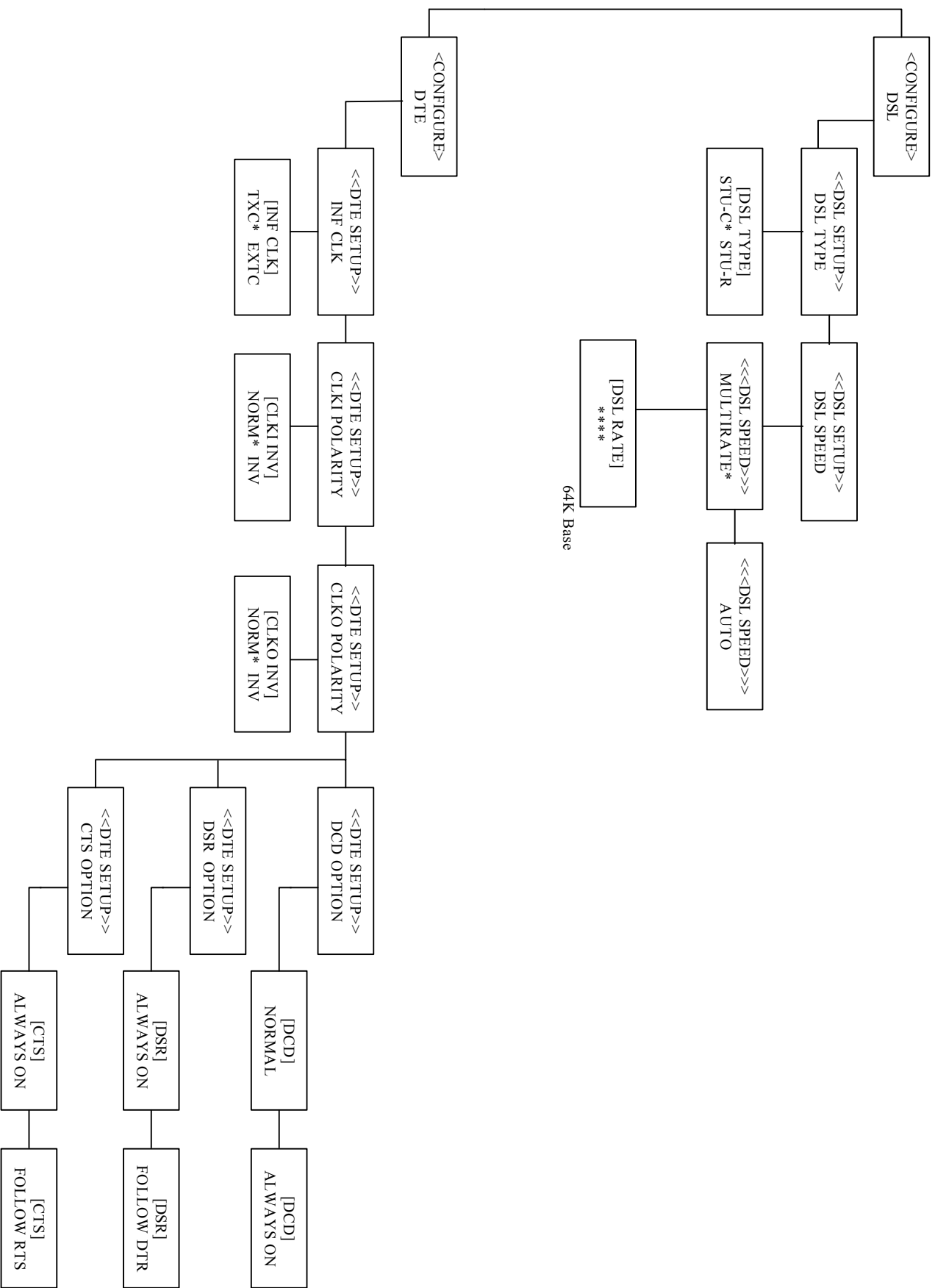


*: Current setting

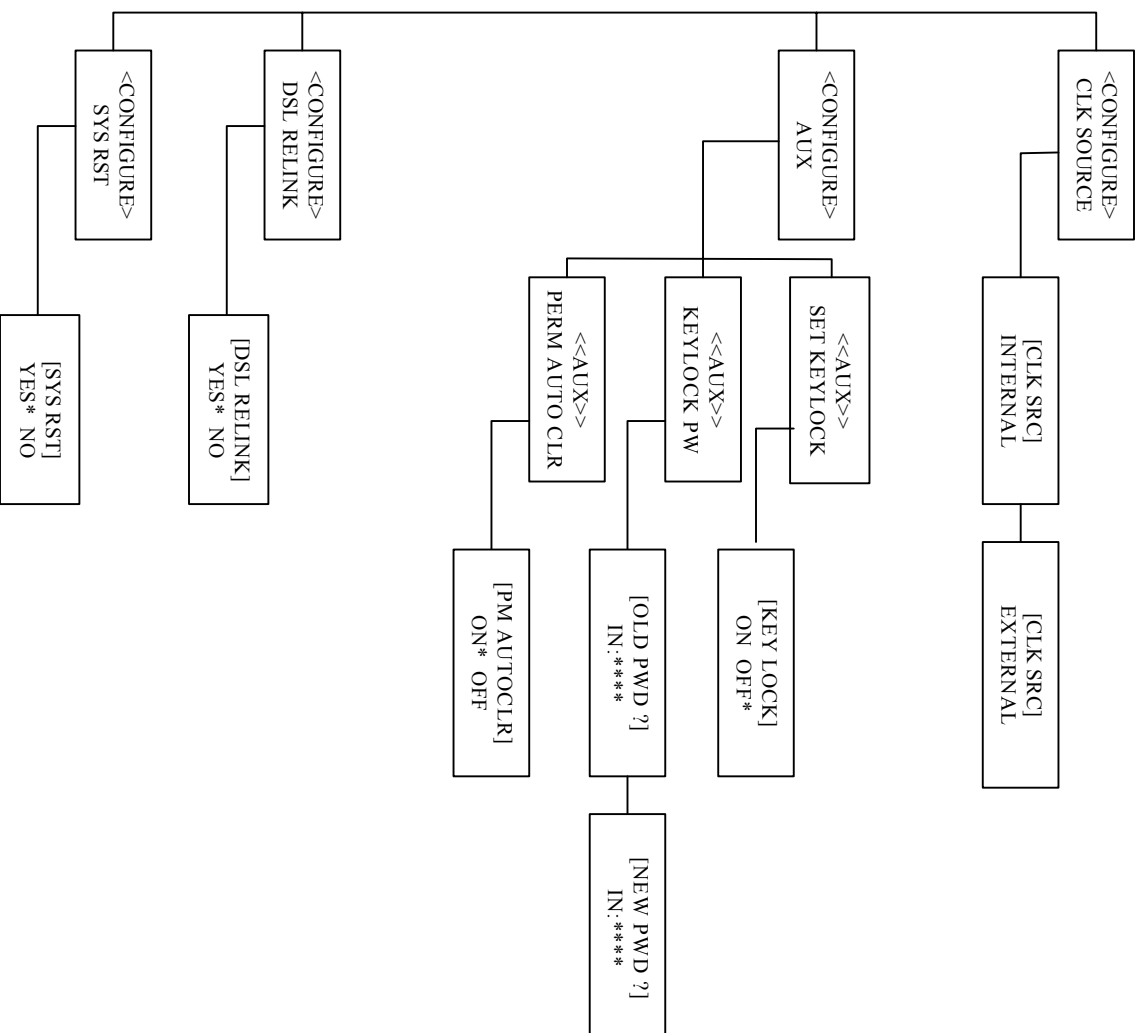
Only Appear in STU_C

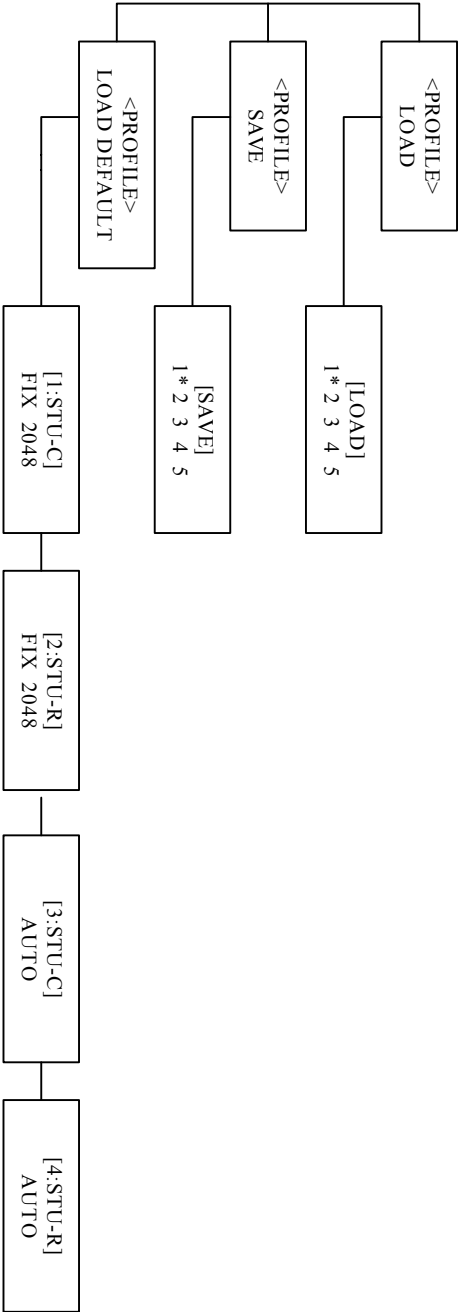
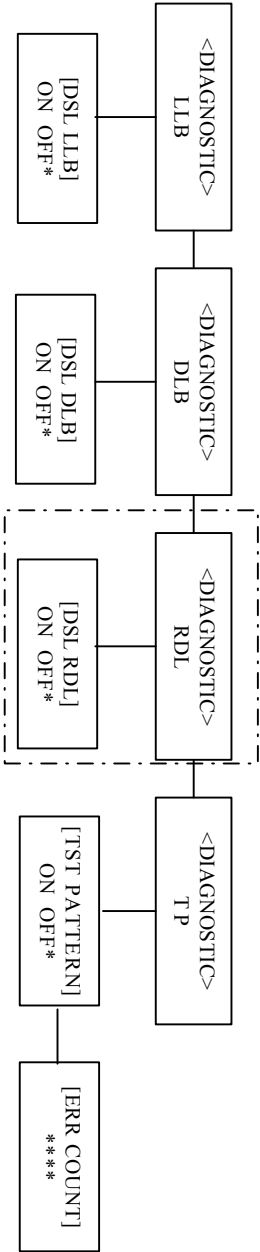






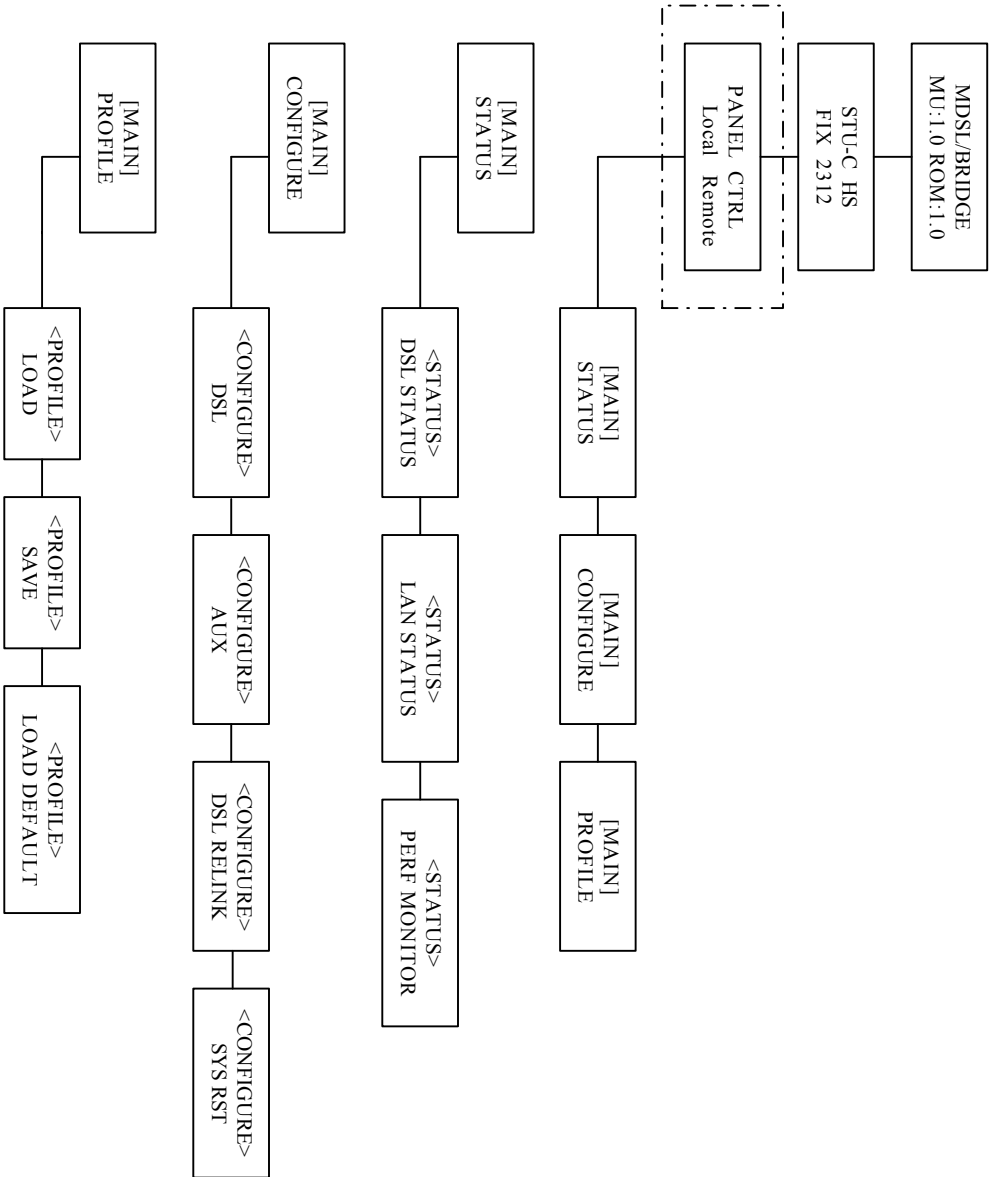
64K Base





APPENDIX E

MDSL/Ethernet MENU TREE



*: Current setting

Only Appear in STU_C



